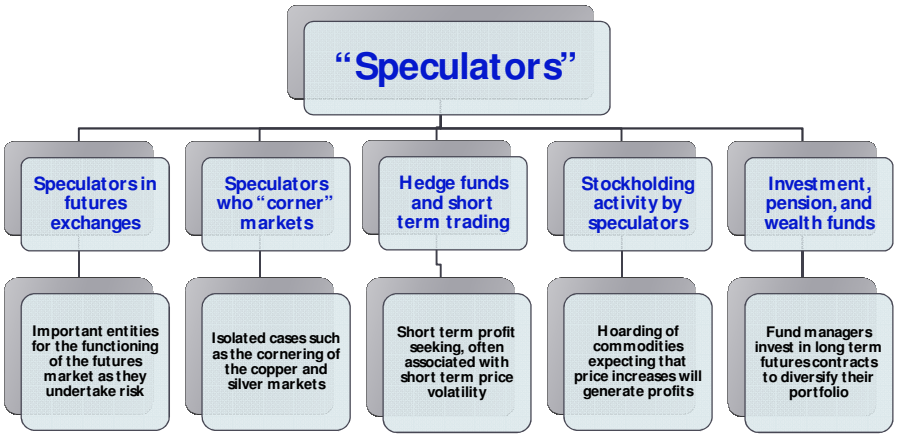
## Figure 2.7: "Speculation" and commodity markets




Source: World Bank

**TABLE 2.1: INCOME ELASTICITIES**

| | *Low Income* | *Lower Middle Income* | *Upper Middle Income* | *High Income* |
|---|---|---|---|---|
| ***Grains*** | 0.15 | 0.10 | 0.05 | -0.01 |
| ***Vegetable Oils*** | 0.50 | 0.65 | 0.78 | 0.41 |
| ***Meats*** | 0.31 | 0.51 | 0.68 | 0.38 |

**Notes:** The estimates are based on panel estimation.

**Source:** Authors' estimates.

**TABLE 3.1: PARAMETER ESTIMATES, PRICE INDICES**

| *INDEX* | $\mu$ | $\beta_1$ | $\beta_2$ | $100*\beta_3$ | *Adj-R²* | *ADF* |
|---|---|---|---|---|---|---|
| **Non-Energy** | 3.03@ | 0.28@ | 0.12 | -0.01 | 0.90 | -3.35** |
| | (6.54) | (5.24) | (0.68) | (0.02) | | |
| ***Metals*** | 3.77@ | 0.25@ | -0.17 | 1.93@ | 0.82 | -3.30** |
| | (4.80) | (3.14) | (0.60) | (2.31) | | |
| ***Fertilizers*** | 3.58@ | 0.55@ | -0.30 | 0.39 | 0.81 | -3.97*** |
| | (4.12) | (4.79) | (0.95) | (0.48) | | |
| ***Agriculture*** | 2.51@ | 0.26@ | 0.33@ | -0.99@ | 0.90 | -3.81*** |
| | (6.90) | (5.54) | (2.43) | (2.73) | | |
| *Beverages* | 1.83@ | 0.38@ | 0.55@ | -3.12@ | 0.76 | -4.95*** |
| | (3.10) | (4.87) | (2.63) | (5.22) | | |
| *Raw materials* | 1.85@ | 0.11@ | 0.51@ | 0.08 | 0.91 | -3.15** |
| | (4.16) | (2.15) | (3.15) | (0.19) | | |
| *Food* | 2.91@ | 0.27@ | 0.21 | -0.71 | 0.85 | -3.85*** |
| | (7.11) | (4.93) | (1.39) | (1.80) | | |
| Cereals | 3.13@ | 0.28@ | 0.17 | -0.87 | 0.78 | -3.83*** |
| | (5.94) | (4.23) | (0.89) | (1.76) | | |
| Edible oils | 3.33@ | 0.29@ | 0.12 | -0.80 | 0.80 | -2.82* |
| | (6.16) | (4.51) | (0.58) | (1.50) | | |
| Other food | 1.86@ | 0.22@ | 0.45@ | -0.42 | 0.89 | -3.60*** |
| | (6.28) | (3.81) | (4.44) | (1.18) | | |
| **Precious metals** | -1.40@ | 0.46@ | 1.05 | -1.75 | 0.98 | -3.91*** |
| | (3.58) | (9.40) | (7.61) | (3.68) | | |

**Notes**: The @ sign denotes parameter estimate significant at the 5 percent level while the numbers in parentheses are absolute *t-values* (the corresponding variances have been estimated using White's method for heteroskedasticity-consistent standard errors.) ADF denote the MacKinnon one-sided *p-values* based on the Augmented Dickey-Fuller equation (Dickey and Fuller 1979). One (*), two (**), and three (***) asterisks indicate rejection of the existence of one unit root at the 10 percent, 5 percent, and 1 percent levels of significance (the respective *t-statistics* are -2.60, -2.93, and -3.58). The lag length of the ADF equations was determined by minimizing the Schwarz-loss function.

Source: Author's estimates.

**TABLE 3.2: COMPARING LONG-RUN TRANSMISSION ELASTICITIES**

| | *Holtham (1988) 1967:S1-1984:S2* | *Gilbert (1989) 1965:Q1-1986:Q2* | *Borensztein & Reinhart (1994) 1970:Q1-1992:Q3* | *Baffes (2007) 1960-2005* | *This Study 1960-2008* |
|---|---|---|---|---|---|
| ***Non-energy*** | — | 0.12 | 0.11 | 0.16 | 0.28 |
| ***Food*** | — | 0.25 | — | 0.18 | 0.27 |
| ***Raw materials*** | 0.08 | — | — | 0.04 | 0.11 |
| ***Metals*** | 0.17 | 0.11 | — | 0.11 | 0.25 |

**Notes:** Holtham uses semiannual data, Gilbert and Borensztein & Reinhart quarterly, and Baffes along with the present study annual. Gilbert's elasticities denote averages based of four specifications. Holtham's raw materials elasticity is an average of two elasticities based on two sets of weights. '—' indicates that the estimate is not available.

**Source:** Holtham (1988), Gilbert (1989), Borensztein and Reinhart (1994), Baffes (2007), and author's estimates.

**TABLE 3.3: PARAMETER ESTIMATES, INDIVIDUAL COMMODITIES**

| *COMMODITY* | $\mu$ | $\beta_1$ | $\beta_2$ | $100*\beta_3$ | *Adj-$R^2$* | *ADF* |
|---|---|---|---|---|---|---|
| Wheat | 3.27[@] | 0.30[@] | 0.12 | -0.49 | 0.84 | -4.35[**] |
| | (6.50) | (5.02) | (1.49) | (1.07) | | |
| Maize | 3.15[@] | 0.27[@] | 0.13 | -0.74 | 0.80 | -3.49[**] |
| | (6.23) | (4.66) | (0.70) | (1.58) | | |
| Soybeans | 3.58[@] | 0.26[@] | 0.25 | -0.82 | 0.82 | -3.85[***] |
| | (8.11) | (4.92) | (1.51) | (1.83) | | |
| Rice | 3.57[@] | 0.25[@] | 0.32 | -1.62[@] | 0.58 | -4.05[***] |
| | (5.14) | (2.67) | (0.26) | (2.78) | | |
| Palm oil | 4.94[@] | 0.35[@] | -0.01 | -0.95 | 0.63 | -3.16[**] |
| | (6.44) | (3.72) | (0.02) | (1.38) | | |
| Soybean oil | 5.25[@] | 0.36[@] | -0.09 | -0.42 | 0.70 | -2.56 |
| | (7.83) | (4.13) | (0.39) | (0.53) | | |

**Notes**: See table 3.1